WHAT IS CLAIMED IS:

1. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit using an optical fiber as a physical medium,

said system comprising a test means which separates from each other the input/output wavelength of a communication means for performing an ordinary LAN communication between terminals of a physical communication or between terminals of a logical communication and the input/output wavelength of a test communication means for performing a test of communication, and

said system performing a maintenance test on a path between said LAN connecting devices.

2. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit using an optical fiber as a physical medium, said system comprising the steps of;

separating from each other the input/output wavelength of a communication means for performing an ordinary LAN communication between terminals of a physical communication or between terminals of a logical communication and the input/output wavelength of an alarm communication means for notifying a communication state, and

transferring alarm information between said LAN connecting devices by means of said alarm communication means.

3. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit using an optical fiber as a physical medium, said system comprising the steps of;

separating from each other the input/output wavelength of a communication means for performing an ordinary LAN communication between terminals of a physical communication or between terminals of a logical communication and the input/output wavelength of a status communication means for notifying a device status, and

delivering, when one side LAN connecting device comes into a power-off

state, a signal indicating the power-off state to the other side LAN connecting device by means of said status communication means of the said LAN connecting device being in the power-off state.

4. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit,

said system comprising a means for recognizing, by using a test communication code being in a different form from an ordinary LAN communication code, said test communication code separately from an ordinary LAN communication and for separating an ordinary communication and a test communication from each other on the basis of code data, and thereby

said system testing a path between said LAN connecting devices.

5. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit,

said system comprising a means for recognizing, by using an alarm communication code being in a different form from an ordinary LAN communication code, said alarm communication code separately from an ordinary LAN communication and for separating an ordinary communication and an alarm communication from each other on the basis of code data, and thereby

said system performing an alarm transfer between said LAN connecting devices.

6. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit,

said system comprising a recognition means for recognizing a TYPE code of a test communication different from an ordinary LAN communication by utilizing a value not used in an ordinary LAN communication address or a length or a TYPE code not existing in a protocol between terminals of a physical communication or between terminals of a logical communication, and a separation means for separating an ordinary LAN communication and said test

communication from each other, and

said system securing a path between said LAN connecting devices by means of said test communication.

7. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit,

said system comprising a recognition means for recognizing a TYPE code of an alarm communication different from an ordinary LAN communication by utilizing a length or a TYPE code not existing in an ordinary LAN communication protocol between terminals of a physical communication or between terminals of a logical communication, and a separation means for separating an ordinary communication and said alarm communication from each other, and

said system performing an alarm notification between said LAN connecting devices by means of said alarm communication.

8. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit using a twisted pair cable as a physical medium,

said system comprising a means for separating from each other the input/output speed of an ordinary communication and the input/output speed of a test communication between terminals of a physical communication or between terminals of a logical communication and performing a test communication at the same time as an ordinary communication or at an optional time, and

said system performing a connection confirmation by means of a test communication at regular or irregular intervals.

9. A system for performing maintenance between LAN connecting devices in which a plurality of LAN connecting devices connectable to a LAN are connected to each other through a circuit using a twisted pair cable as a physical medium,

said system comprising a means for separating from each other the input/output speed of an ordinary communication and the input/output speed of an alarm communication between terminals of a physical communication or between terminals of a logical communication and performing an alarm

communication at the same time as an ordinary communication or at an optional time, and

said system performing an alarm notification by performing an alarm communication at regular or irregular intervals.

10. A system for performing maintenance between LAN connecting devices connected to a LAN,

said system being provided with a test communication means for operating in parallel with an ordinary LAN communication independently of the said LAN communication and thereby monitoring an ordinary LAN communication signal and a test communication signal used in a test communication in a reception means for receiving communication information from a circuit and recognizing a test state by separating an ordinary communication state and a test communication state, and being provided with a means for transmitting and receiving said test signal,

said system comprising the steps of;

making a test monitoring device transmit a test signal to a LAN connecting device to be a tested device,

making said LAN connecting device transmit a test completion identifying response signal to said test signal to said test monitoring device and

making said test monitoring device confirm the normality on the basis of the state of reception of this response signal, and thereby

securing a communication operation between said LAN connecting devices.

11. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit using an optical fiber as a physical medium, said LAN connecting device comprising;

a communication means for performing an ordinary LAN communication between terminals of a physical communication or between terminals of a logical communication,

a test communication means for performing a test of communication,

a separation means for separating from each other the input/output wavelength of said communication means and the input/output wavelength of said

test communication means, and

a test means for optionally performing a test of communication by means of said test communication means.

12. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit using an optical fiber as a physical medium, said LAN connecting device comprising a communication means for performing an ordinary LAN communication between terminals of a physical communication or between terminals of a logical communication, an alarm communication means for notifying an alarm state, and a separation means for separating from each other the input/output wavelength of said communication means and the input/output wavelength of said alarm communication means, and

said LAN connecting device transferring alarm information with said opposite party device by means of said alarm communication means.

13. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit using an optical fiber as a physical medium, said LAN connecting device comprising a communication means for performing an ordinary LAN communication between terminals of a physical communication or between terminals of a logical communication, a status communication means for notifying a device status, and a separation means for separating from each other the input/output wavelength of said communication means and the input/output wavelength of said status communication means, and

said LAN connecting device, when it comes into a power-off state, delivering a signal indicating the power-off state to said opposite party device by means of said status communication means.

14. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit, said LAN connecting device comprising;

a recognition means for recognizing a test communication code being in a different form from an ordinary LAN communication code,

a separation means for separating an ordinary communication and a test communication from each other on the basis of code data when recognizing said test communication code by means of said recognition means, and

a test means for testing a path to said opposite party device by means of said test communication code.

15. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit, said LAN connecting device comprising;

a recognition means for recognizing an alarm communication code being in a different form from an ordinary LAN communication code,

a separation means for separating an ordinary communication and an alarm communication from each other on the basis of code data when recognizing said alarm communication code by means of said recognition means, and

an alarm transfer means for alarm-transferring a device status to said opposite party device by means of said alarm communication code.

16. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit, said LAN connecting device comprising;

a recognition means for recognizing as a test communication code a value not used in an ordinary communication address or a length or a TYPE code not existing in a protocol between terminals of a physical communication or between terminals of a logical communication,

a separation means for separating an ordinary communication and said test communication from each other by means of said recognition means, and

a test means for performing a test between itself and its opposite party device by means of said test communication at regular or irregular intervals.

17. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit, said LAN connecting device comprising;

a recognition means for recognizing as an alarm communication code a length or a TYPE code not existing in an ordinary LAN communication protocol between terminals of a physical communication or between terminals of a logical communication,

a separation means for separating an ordinary communication and said alarm communication from each other by means of said recognition means, and

an alarm notification means for notifying said opposite party device of a device status by means of said alarm communication.

18. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit using a twisted pair cable as a physical medium, said LAN connecting device comprising a separation means for separating from each other the input/output speed of an ordinary communication and the input/output speed of a test communication between terminals of a physical communication or between terminals of a logical communication, and a test means for performing a test communication at the same time as an ordinary LAN communication or at an optional time, and

said LAN connecting device performing a connection confirmation by means of a test communication at regular or irregular intervals.

19. A LAN connecting device connectable to a LAN and connected to its opposite party device through a circuit using a twisted pair cable as a physical medium, said LAN connecting device comprising a separation means for separating from each other the input/output speed of an ordinary communication and the input/output speed of an alarm communication between terminals of a physical communication or between terminals of a logical communication, and an alarm communication means for performing an alarm communication at the same time as an ordinary communication or at an optional time, and

said LAN connecting device notifying its opposite party device of a device status by means of an alarm communication.